MAE210A: Fluid Mechanics I Fall Quarter 2006
http://maecourses.ucsd.edu/mae210a

Course details

Lectures Tuesdays and Thursdays, 12:30–1:50 pm in WLH 2111. No formal office hours; I sit in EBU II 574, e-mail `sgls@ucsd.edu`. TA: TBD. Problem classes: TBD.

Semi-required text The book for the class is Fluid Mechanics (3rd edition) by Kundu and Cohen, Elsevier Academic Press. Books you might find useful:
Elementary Fluid Dynamics, D. J. Acheson, Oxford University Press. Very clear and concise.
Physics of Continuous Media, B. Lautrup, IoP Press. Good introduction to continuum mechanics written by a physicist.
An Introduction to Fluid Dynamics, G. K. Batchelor, Cambridge University Press. Not as introductory as one might wish.
Hydrodynamics, Sir Horace Lamb, Cambridge University Press/Dover. Hardcore book from the 1930s. Read it and be impressed.

Syllabus
Introduction
Vector analysis and tensors
Fluid kinematics
Conservation laws
Bernoulli's theorem
Irrotational flow
Exact solutions of the Navier–Stokes equations
Dimensional analysis

Homework You may discuss problems amongst yourselves, but what you hand in should be your own work. Copying from other people or from other sources is not allowed. Remember to include your name and make sure your working is clear. Homeworks due Oct 3, Oct 17, Oct 31, Nov 14 and Nov 28.

Midterm Oct 26. Closed book, closed notes, no calculator.

Final Wednesday December 6, 11:30 am–2:30 pm.

Grading Approximate division: homework 20%, midterm 30%, final 50%.

Academic dishonesty I remind you of UCSD's policy on this issue to which there is a link on the class web page.